

Guess who is coming to
dinner?

Marie T Turner MD

Louise Charles R.N.

Lemuel Shattuck Hospital

Cambridge Health Alliance

Cambridge Clinic

- Monday evening clinic in March, mom and 3 kids come to clinic
- Mom, dad and kids all American born, no high risk associations or travel
- Mom had insisted that her kids get tested for TB

Pediatric Visit 3/07



- Mom brings her three children to pediatrician for PPD evaluation.
- Two of three children have PPD 25mm or >

Clinician curious... why the testing



- Family falls into no risk group.
- But smart mom insists on testing
- Why?

Thanksgiving Dinner 2006



- Estranged brother invited to dinner.
- No other contact with family for 5 years.
- 3 children @ table.
- 6 additional adults



Mom became concerned!

- Mom noted estranged brother in law coughing.
- Subsequently, mom and her two sister in laws (dinner took place at their house) question him about his illness.

Brother in Law Mr. W

- When questioned about his cough, states treated for pneumonia(not a lie)
- One month later hospitalized
- TB diagnosed, he does not share this with his family
- But does share name of meds with concerned family members once discharged.
- They in turn look up meds on internet and discover these are TB meds



Mom Interview

- Mom reveals name of brother in law.
- Physician recognizes name as known cavitory case from her other hospital (cannot disclose.)

10 year old PPD = 25 mm



10 y.o. CXR read as negative..... Looks like
L hilar adenopathy. No weight loss or cough.
Child feels well.



Eldest child



- 12 year old with positive PPD 28 mm
- CXR negative
- Child feels well

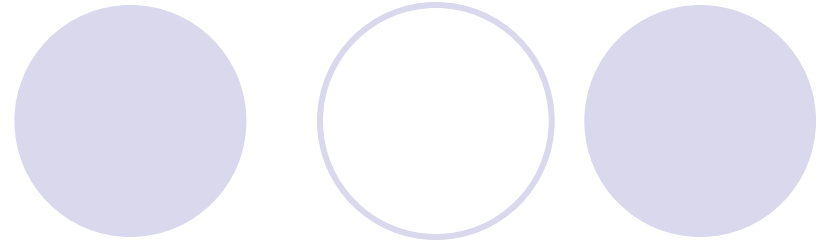


Youngest child

- Negative PPD

- Negative CXR

- She left table before the rest of the family





Investigation continues!

- Parents also tested.
- Remainder of Thanksgiving gathering encouraged to undergo testing.
- PHN for index case contacted question expand investigation

Dinner transmission



- Mom positive @22mm
- Dad positive @ 25mm

Both have chest films
as well as CT

35 year old dad also has
Mycosis Fungoides



Do we need further testing?



- CXR appears to reveal R paratracheal adenopathy.
- Read as negative!
- What to do?

CT /PET Dad



- Extensive Lymphadenopathy: mediastinal as well as right paratracheal.
- Cavitating nodule LUL
- Increased PET activity c/w infection or tumor
- No axillary adenopathy or nodes in neck

Is this the MF or is it primary disease?



- MF expert felt the location of adenopathy was discordant with areas of MF so.....
- Not MF in the chest but rather.....TB

Mom's Chest Film

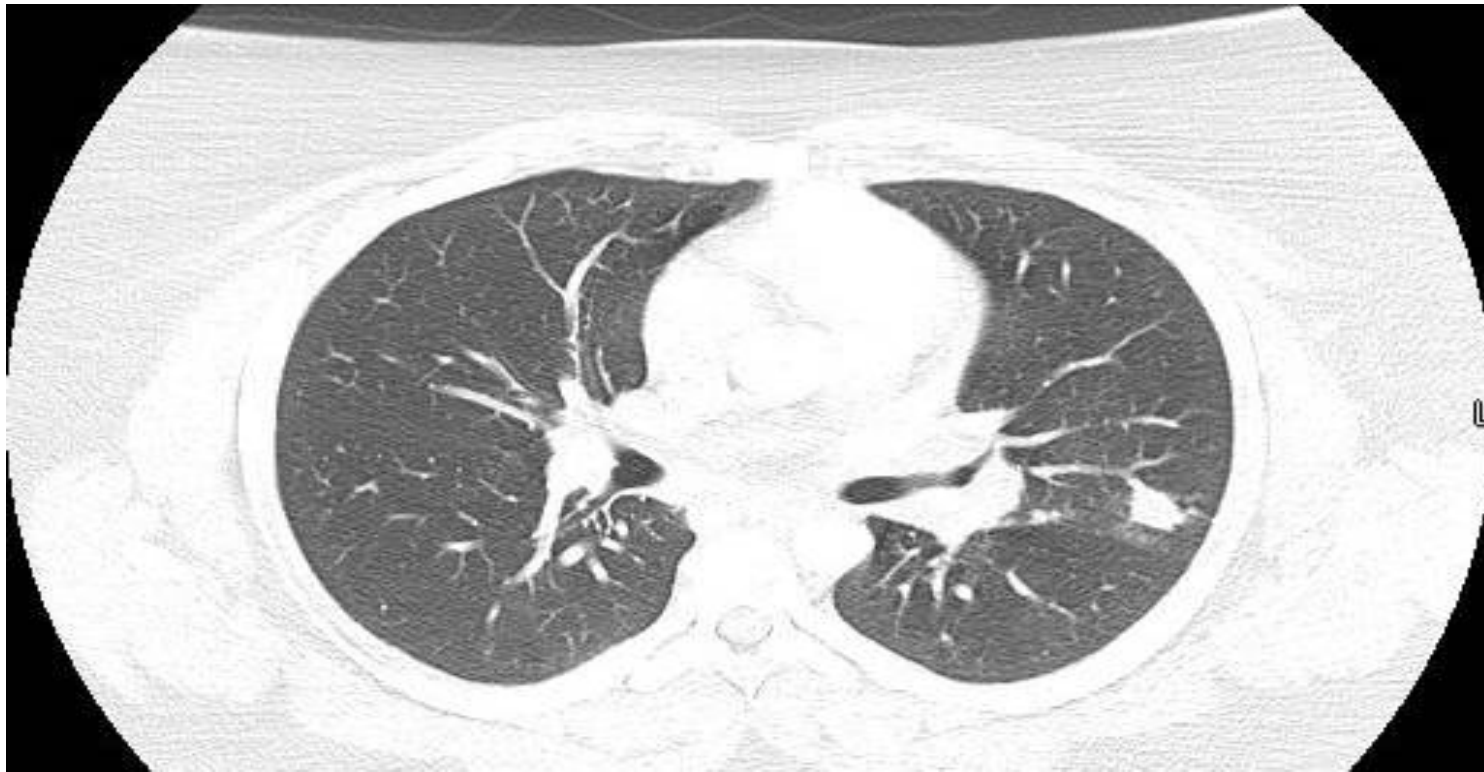




Does mom need more than a CXR?

- Mom is a large woman
- Periphery hard to read secondary to size
- Adenopathy also difficult.
- Given 4/5 members affected, with 2 apparent disease, CT reasonable

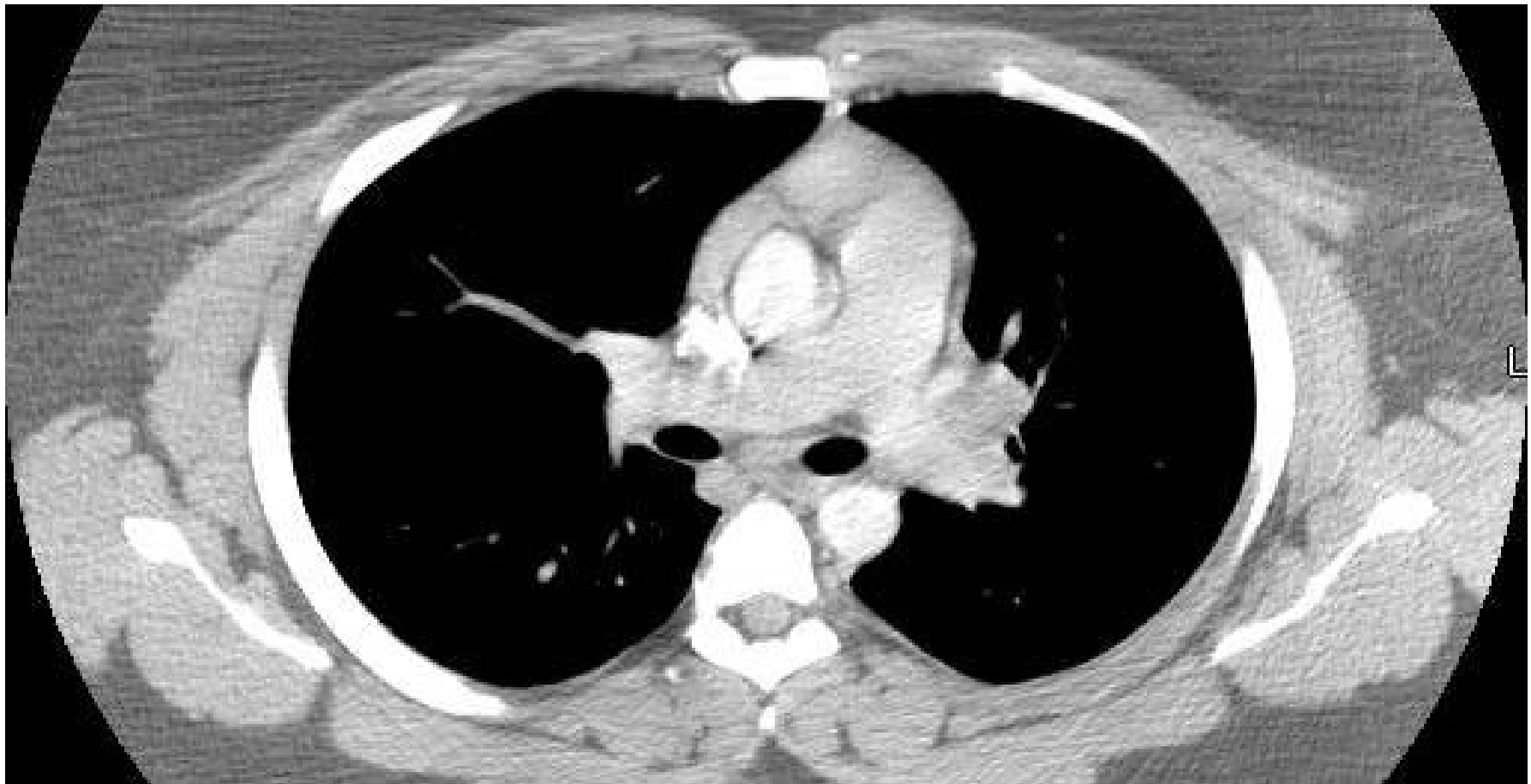
Lung Window CT Mom



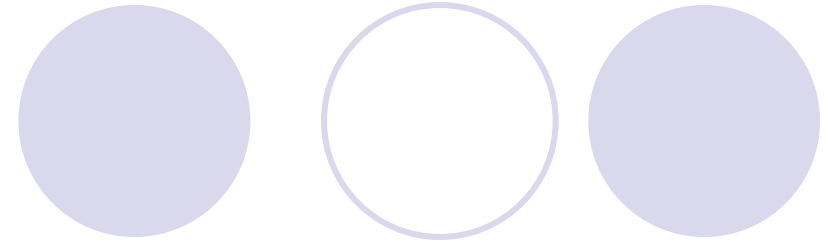
Mom's CT with measured nodes



Mediastinal Window CT Mom



Mom has disease!



- Mom and dad with adenopathy and lung nodules.
- In both cases lung nodules NOT seen on CXR
- 10 year old with adenopathy visible on CXR, no CT needed.

What about the 12 year old?



- Should we get CT?
- Should we treat with 2 drugs?
- Sensi of index case known.
- Is INH sufficient if we do not CT and there is adenopathy missed?

Other Dinner Guests



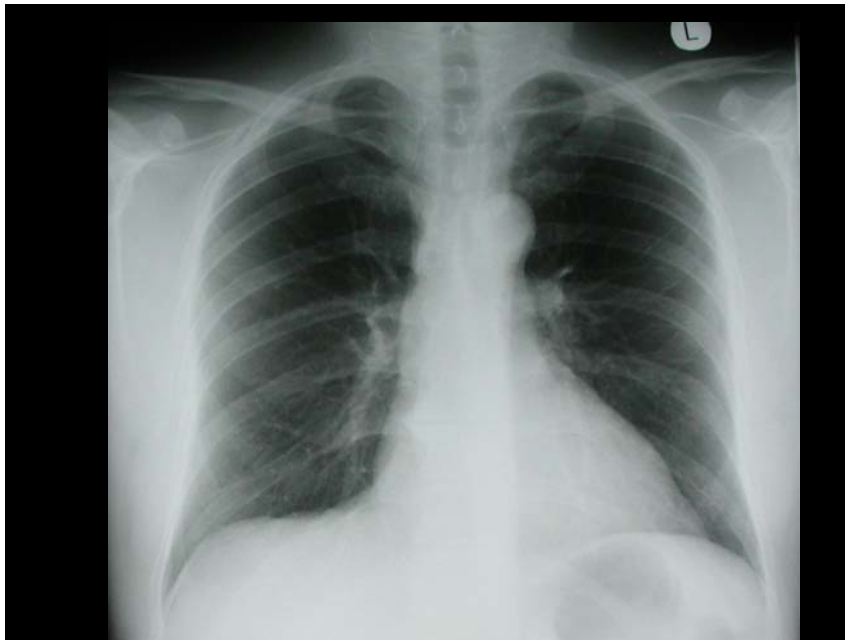
- Sister 40 tested.
- PPD 20mm CXR negative
- Sister 32 tested PPD 22mm CXR negative
- Brother 45 admitted to local hospital.

Brother O.W. admitted with chest pain



- CXR in ED reveals right pleural effusion.
- Effusion tapped lymphocytic exudate
- Consideration for lymphoma by HO
- PHN calls with contact investigation
- for TB.

Wife of OW also @ dinner



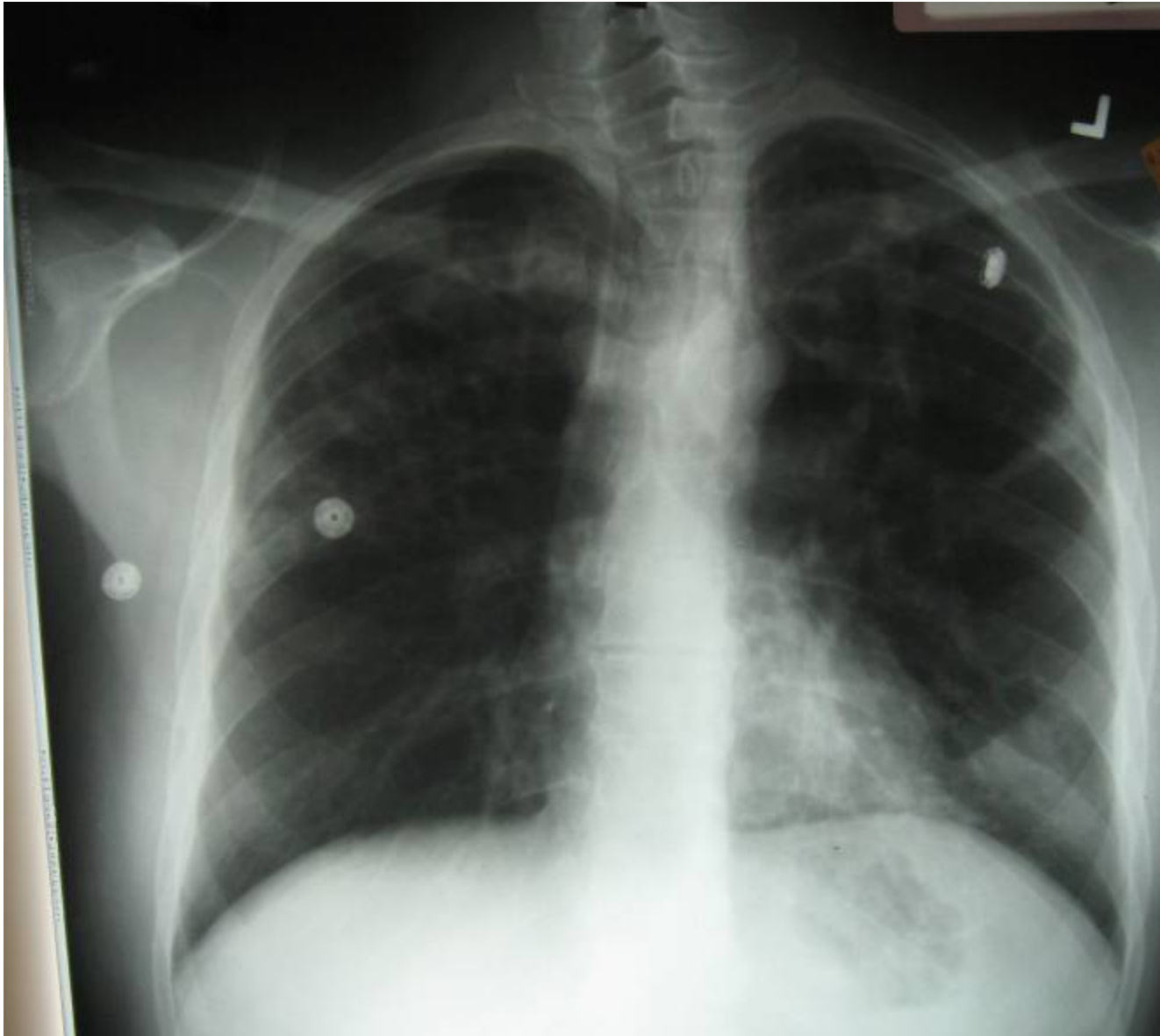
- PPD positive by history
- CXR normal
- No treatment recommended

Why was index case so infectious?

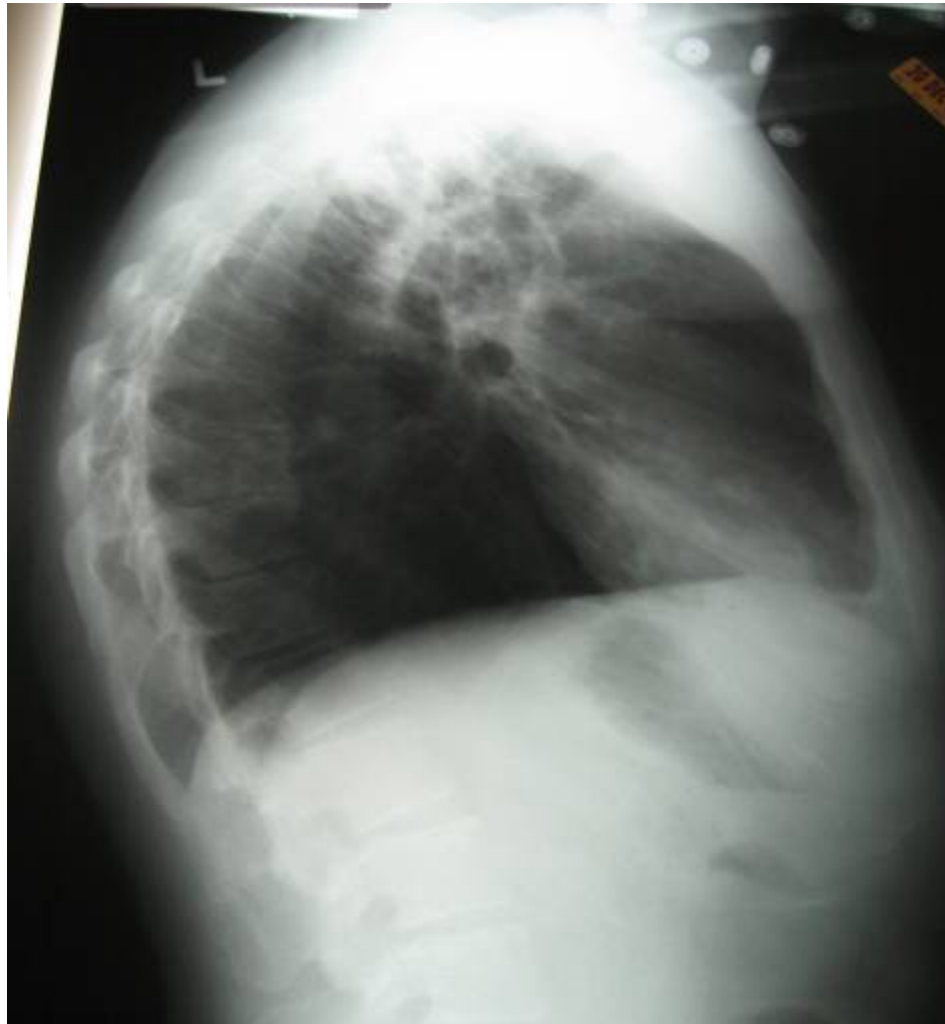
- Coughing
- Cavitory
- Co morbidities complicated and delayed diagnosis



Index Case Estranged Brother



Lateral of prodigal brother



Why so infectious?

- Index case with huge cavity roughly from apex to bifurcation at carina.
- Index case coughing.
- Index case sick for many months with treatment at many facilities. Substance abuse barrier to follow up.
- Among the drugs used were quinolones.

Old Film @ BMC



- Patient admitted 6/06
- BMC
- CXR read as upper lobe disease
- Patient lost to F/U for 6 months

A.W. friend who on occasion shares
apartment and cocaine presents two
weeks later



Currently



- Mom completed therapy requested a repeat CT is scheduled for bariatric surgery.
- 10 year old completed 9 months.. I, R (2 mos E), had spike LFT stopped Z
- 12 year old completed 9 months I
- Dad on I and E became severely neutropenic on Rifamycin, baseline LFT high so no Z. Also color blind. Still on meds close to one year.
- Other brother completed meds
- Two sisters completed I



Continued

Index case treated I,R,E, Levo then on I,R (some Z but did not tolerate) Hospitalized twice for non compliance

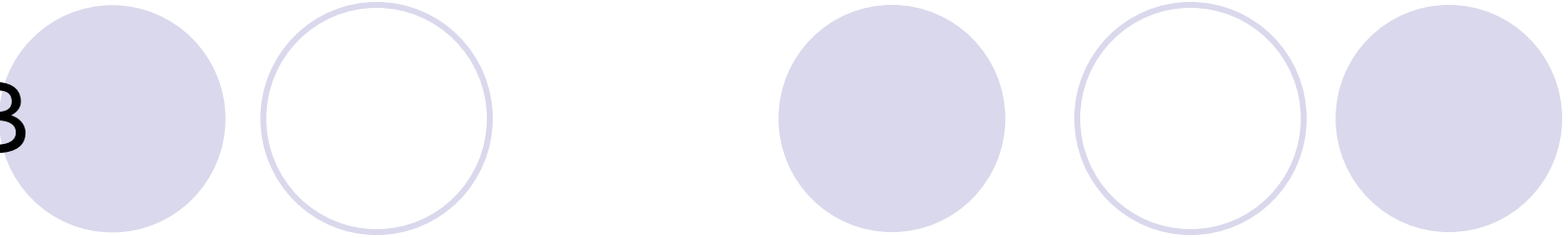
- Friend on IREZ now I,R also non compliance currently incarcerated
- 2 94A menace from community index case
- States he took a flight in December to Fla
- Fla family also infected

Genetic or Spoligotyping



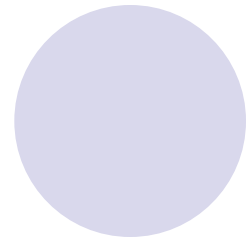
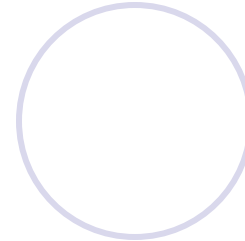
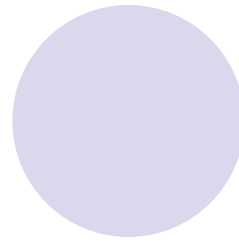
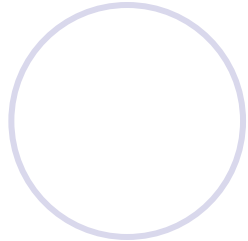
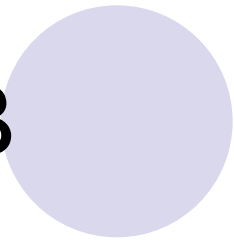
- Mom/dad did not grow (dad CT improved)
- Both had decrease in ESR
- 10 year old did grow
- Child and index case matched
- AW friend also matches

RB



- 50 year old male with Down's
- Member of church of index case
- Yearly PPD negative including 6/06
- Weight loss evaluation 1/07 negative
- 6/07 routine PE PPD positive
- CXR effusion plus air space disease
- Bronchoscopy pleural tissue all grew and match

LB



- 39 year old male denies a close relationship with index case
- Admits to attending an open house/party the evening of Thanksgiving 2005 @ index case home.
- Also an usher @ church index case
- June 2007 cough weight loss, pleural effusion, tissue grew
- Spoligotyping match

Terror in the Skies

- The day after Thanksgiving index case flew to Florida
- Shared flight number etc. on Jet Blue
- Does not meet CDC criteria for in air time.
- Florida jurisdiction, authorities declined further investigation

Recent Death 2008

- 70 plus female postal employee
- Yearly physical 8/07
- Abnl CXR
- Walking pneumonia



MM continued

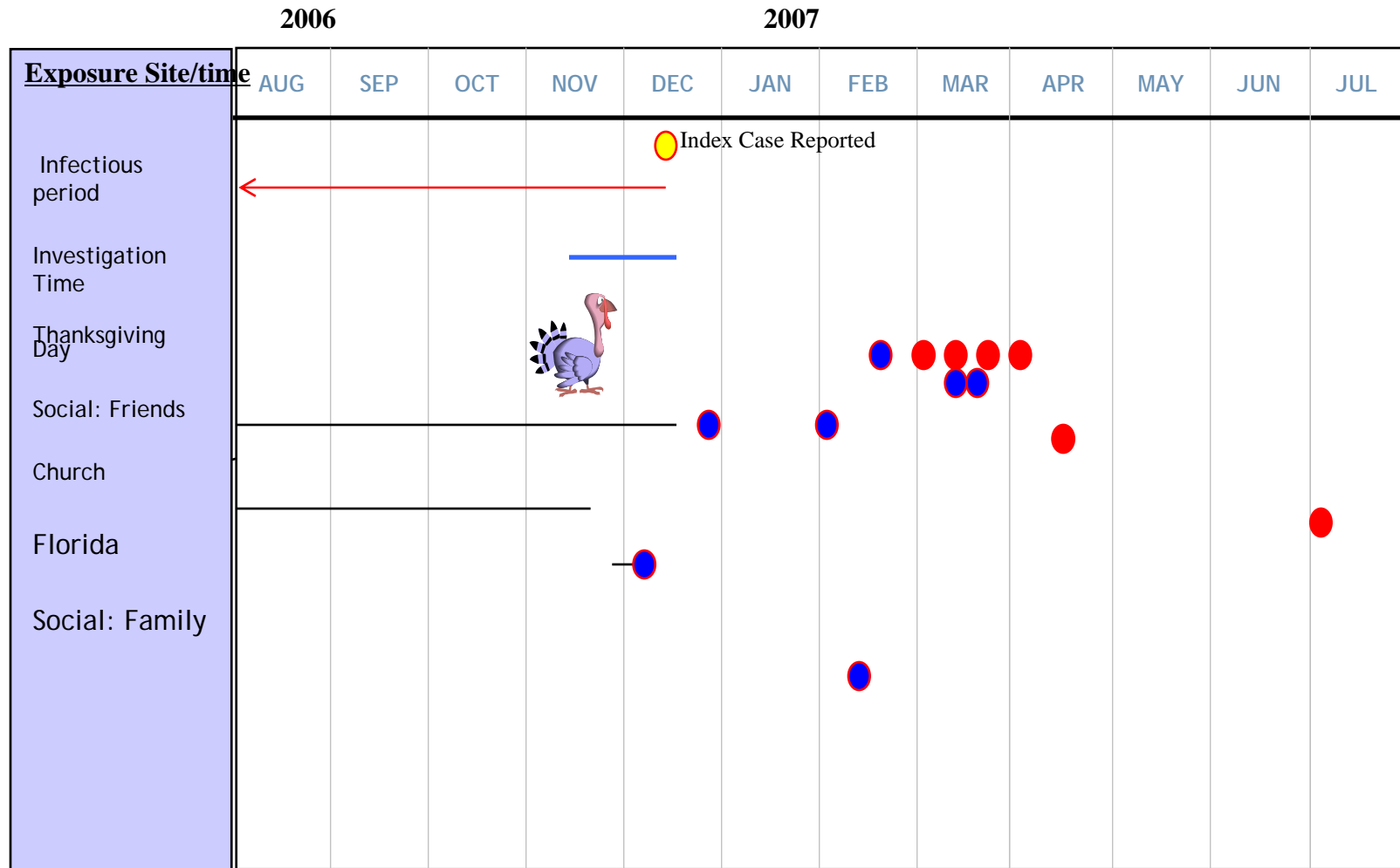
- Felt to have walking pneumonia
- Surprisingly sputum grew TB
- Started on IREZ
- Patient on coumadin for atrial fibrillation
- Large stroke within 2 months
- Hospice referral
- Died 2 weeks ago



OBITUARY

- MM LONG TERM MEMBER OF SAME CHURCH OF INDEX CASE!!!!

Thanksgiving Dinner Case Cluster



?